

From: "David Livermore" <dlivermore@integral-corp.com>
To: "Novak, Madi" <Novak.Elisabeth@epa.gov>
CC: "Michael PINTO" <michael.pinto@total.com>
"Eron Dodak" <edodak@integral-corp.com>
rwebb@dofnw.com
Date: 6/3/2022 12:52:58 PM
Subject: FW: HxCDF Summary
Attachments: [ATT00001.txt](#)
[HxCDF Slides from_2021-02-09.pptx](#)

Hi Madi,

Per your request, this is a summary of the HxCDF issue as we have assessed it. I have also attached a few slides from our 2/9/2021 presentation for your reference.

In summary, the fish tissue risk threshold value (10^{-3}) that is the basis for PTW for HxCDF ($0.04 \mu\text{g/kg}$) does not match the concentrations that were found at the site through the fish tissue sampling and analysis. We believe the HxCDF PTW value is too conservative (over-predicting the area of risk based on the sediment concentration threshold). Our understanding is this could be a result of the food web model (FWM) not accurately predicting the PTW corresponding to the fish tissue risk threshold; however, we don't have the full details of the model and model calibration to assess this issue.

The contribution to the total D/F risk in RM 6.5-7.5W (from the FS Appendix B) based on measured fish tissue data was as follows:

- PeCDF – 62%
- TCDF – 21%
- HxCDF – 8%
- TCDD – 1%
- PeCDD – 1%

PeCDF and TCDF make up the majority of the D/F risk (>80%).

The modeled residual risk (from FS Appendix J), which we assume are also the basis for the sediment PTW concentration thresholds, tells a different story. Two things about the current FWM results:

- The modeled fish tissue concentrations (i.e., the FWM uses sediment concentration data to back calculate fish tissue) shows D/F PTW risk where the fish tissue data did not.
- The FWM values show that HxCDF has by far the highest risk contribution (essentially 100%)

Based on this analysis it appears that the FWM is overpredicting HxCDF risk by at least an order-of-magnitude, and thus the PTW sediment threshold value is also overcompensating areas with PTW ($>10^{-3}$) risk.

Let me know if you have any other questions or need additional information.

We are hoping that once you and your team have had a chance to review this information that we could have a call to discuss potential methods to address the issue.

Thanks,
David

DAVID LIVERMORE, R.G., L.H.G. (he/him/his) | **Principal | Regional Advisor**

Tel: 503.943.3613 | Cell: (b) (6)

319 SW Washington Street, Suite 1150 | Portland | OR 97204

dlivermore@integral-corp.com | www.integral-corp.com

DAVID LIVERMORE, R.G., L.H.G. (he/him/his)

Tel: 503.943.3613 | Cell: (b) (6)

INTEGRAL CONSULTING INC.